

Alathon

M6080UVX01

High Density Polyethylene

Injection Molding Grade

Melt Index 7.9 Density 0.960

Applications

Alathon M6080UVX01 is a narrow molecular weight distribution homopolymer that exhibits enhanced flow characteristics and good balance of stiffness and impact resistance. Typical applications include cases, tote bins, crates and trays. M6080UVX01 contains a UV stabilizer for outdoor applications.

Regulatory Status

Alathon M6080UVX01 meets the requirements of the Food and Drug Administration regulation 21 CFR 177.1520. This regulation allows for, among other things, the use of this olefin polymer in "articles or components of articles intended for use in contact with food." Certain specific limitations or conditions of use may apply. The end user, however, is ultimately responsible for determining compliance with all applicable Food and Drug Administration regulations. For more information, please contact your Equistar product safety representative.

Processing Techniques

Specific recommendations for processing *Alathon* M6080UVX01 can only be made when the processing conditions, equipment and end use application are provided; however, Equistar recommends that users conduct performance testing on finished articles in order to make an independent determination that M6080UVX01 is suitable and safe for all intended uses and applications. For further information please contact your Equistar Sales Representative or refer to the [Start-up Conditions for HDPE](#) on the LyondellBasell web site. Additional [Injection Molding Technical Topics](#) can also be found on the LyondellBasell web site.

Suggested Start-up Conditions

Extruder Zone	Rear	Center	Front	Nozzle
Cylinder Temperature, °F (°C)	450 (232)	470 (243)	475 (246)	475 (246)

Nominal Values

Physical Properties

Resin Properties	English Units	SI Units	Test Method
Melt Index, 190°C, 2.16 kg		7.9 g/10 min	ASTM D 1238
Spiral Flow ¹	8.6 in	21.8 (cm)	Equistar
Density		0.960 g/cc	ASTM D 1505
Bulk Density	37-39 lb/ft ³	593-625 kg/m ³	ASTM D 1895
Molded Properties			ASTM D 4796
Tensile Strength, Yield	4,250 psi	29.3 MPa	ASTM D 638*
Tensile Strength, Break	2,300 psi	15.9 MPa	ASTM D 638*
Elongation, Break		380 %	ASTM D 638*
Flexural Modulus, 1% Secant	190,200 psi	1,310 MPa	ASTM D 790**
Izod Impact, 23 °C	1.4 ft-lbs/in	23 J/m	ASTM D 256
Unnotched Impact, -18 °C	No Break	No Break	ASTM D 4812
Vicat Softening Point		70	ASTM D 1525
Hardness, Shore D	70 °F	80 °C	ASTM D 648
Low Temperature Brittleness, F ₅₀ ²	<-105 °F	<-76 °C	ASTM D 746

See Page 2 for Other Properties

¹ Measures the number of inches of flow produced when molten resin is injected into a long, spiral channel (0.0625" insert), at a constant injection pressure of 1000 psi with a melt temperature of 440°F.

² Data are for control and development work and not intended for use in design or predicting performance at elevated or sub-ambient temperatures.

* Conditions: 50 mm/min, Type IV

** Conditions: 12.5 mm/min

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Other Properties

	Nominal Values		Test Method
	English Units	SI Units	
Thermal Properties			
Melting Temperature	270.9 °F	132.7 °C	ASTM D 3418
Crystallization Temperature	240.6 °F	115.9 °C	ASTM D 3418
Molded Properties	English Units	SI Units	Test Method
Flexural Modulus, 2% Secant	155,400 psi	1,020 MPa	ASTM D 4976
Flexural Young's Modulus	205,100 psi	1,410 MPa	ASTM D 790**
Tensile Modulus, 1% Secant	122,600 psi	845 MPa	ASTM D 790**
Tensile Young's Modulus	146,400 psi	1,020 MPa	ASTM D 638***

** Conditions: 12.5 mm/min

*** Conditions: 50 mm/min, Type I

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3418-V1-0609